Background

To complete the Agency's responsibilities under Section 7 of the ESA as it relates to the risk findings for 2,4-D choline salt use on herbicide tolerant corn and soybeans, the Agency and the registrant have agreed that a refined geographical evaluation of listed species and critical habitat locations coupled with appropriate mitigation measures would be important to achieving a "no effects" determination. The goal of this effort would be to develop a risk mitigation tool that would reasonably be concluded to avoid 2,4-D choline salt exposures above the most sensitive taxonomic endangered species threshold in locations reasonably considered to harbor listed species or their critical habitat.

Proposed Options

- Industry proposal – use NatureServe accessed elemental occurrence (EO) data as a core area for the location of listed species. These EOs are expanded in geographical extent by one or more adjacent sections. Within these sections and the EO, applicators or growers would be required to determine if certain habitats (mutually agreed on by all parties to be associated with listed species) are within Agency established buffer areas that account for the extent of drift and vapor transport of 2,4-D choline salt from treated fields. Candidate areas for treatment within minimum distances from appropriate habitats would be subject to a suite of pesticide use mitigation options (i.e., reduced application rate, wind considerations, etc.).
    - Pros
        - Provides a habitat-based representation of the locations of species within and proximate to EOs.
        - Likely to reduce the potential footprint of areas of modified 2,4-D choline salt use.
        - Provides the Agency with a course idea of the location of each EO.
    - Cons
        - Relies on non-transparent dataset for initial species locations (NatureServe).
        - Relies on third parties to establish the locations of available habitat without demonstrated expertise (e.g., farmers).
        - Concerns for enforceability.
- Agency proposal – use NatureServe accessed EO data as a core area for the location of listed species and expand these core areas by the appropriate drift buffers (~200ft). Within these areas, regardless of habitat presence or absence, application of 2,4-D choline salt would be prohibited.
    - Pros
        - Rapidly implemented discreet set of locations.
        - Does not require any parties to interpret information at the field level (e.g., no scouting).
        - Clearly enforceable.
    - Cons

        - Relies on non-transparent dataset for initial species locations (NatureServe).
        - Potentially a larger area of non-habitat proximate cropland would be off limits to 2,4-D choline salt herbicide use (see following sections for discussion).
        - Does not represent the full use of the biological information that is available to the Agency.
- Hybrid proposal – use NatureServe accessed EO data as a core area for the location of listed species. Use a mutually agreed upon habitats associated with each species to instruct the development of suitable remote sensing-based data layers that would impartially establish any locations of suitable habitat within each EO. The appropriate drift buffers would be used to expand the within-EO established suitable habitat areas to approximate a 2,4-D choline salt use exclusion zone. In certain cases where a mutually agreeable suite of remote sensing-based data layers cannot be established as representative of suitable habitat within an EO, the use exclusion zone would be the entire EO.
    - Pros
        - Does not rely on surveys of habitat by potentially affected parties (e.g., farmers).
        - Provides an impartial mutually agreed upon representation of the best available biological information with respect to habitat.
        - In most cases, reduces the potential area of 2,4-D choline salt exclusion to those areas within EOs that constitute a scientifically defenseable representation of habitat and therefore the location of the species.
        - Enforceable.
    - Cons
        - Relies on non-transparent dataset for initial species locations (NatureServe).
        - In some cases, where a reasonable subset of land could not be defined as habitat, an entire EO may still be prohibited from 2,4-D choline salt use.

Evaluating the Amount of Land Affected

The registrant contends that the Industry Proposal represents an acceptable level of impact to agriculture whereas the Agency's Proposal would affect millions of acres. Quantitatively evaluating the impacts of agriculture from any of the three proposals is limited by the following:

- Unavailability of the underlying EO data
- The degree to which the underlying EO data have been expanded (fuzzed) to prevent identification of the actual EO polygons.

However, some general assumption can be made. The Hybrid Proposal, in most cases, would involve a lower impact to agriculture as it only establishes exclusion zones to a subset of landcovers within the EOs, based on habitat descriptions. Given that the Industry Proposal expands habitat evaluation to

areas outside EOs (i.e., adjacent sections), it is likely that the Hybrid Proposal will affect similar or less acreage than the Industry Proposal.

To quantitatively evaluate the extent to which each proposal affects agricultural land, the size and location of underlying EO information must be established relative to the location of agricultural land and the locations of any underlying habitat data layers (soil type, land cover classification, water bodies, wetlands, etc.). Avenues to acquire that information include:

- Requesting EO data from the registrant (all or in part)
- Request in whole or in part from one or more of the Heritage Programs in the six states proposed for initial use

Feasibility of Implementing the Hybrid Proposal

EFED conducted an analysis of the habitat descriptions established for each of the ??? species in the area and determined whether there was a reasonable single or suite of mappable land characteristics that could be used to describe habitat geographically.

This could be accomplished for X number of species with a single data layer and X number of species with multiple data layers (e.g., soil and cover type or soil and shoreline).

For the remaining X number of species, the best approach is to use the whole EO because habitat data layers were not available.